

**CLAIMS**

5 **1. - Method for multiple access in a radiocommunication system** that employs time division multiple access (TDMA) techniques, such that a signalling multiframe is used, in both transmission directions, for  
interchanging signalling messages between at least one fixed unit (11-j) and  
a set of remote units (12-1 to 12-m) located within the coverage area  
associated with said fixed unit (11-j); **characterised** in that said signalling  
multiframe is formed by a predetermined number of virtual identities for  
signalling generated by a first controller means (111), included in said fixed  
10 unit (11-j), for the purpose of interchanging signalling messages so that the  
number of said virtual identities is less than the number of said remote units  
(12-1 to 12-m).

15 **2. - Method for multiple access** according to claim 1, **characterised** in that said virtual identities are independent of the true  
identities of said remote units (12-1 to 12-m) and are broadcast by a first  
radio transmitter (112), included in said fixed unit (11-j), over a pilot channel  
in the downlink transmission direction.

20 **3. - Method for multiple access** according to claim 2, **characterised** in that said pilot channel is received by means of a second  
radio receiver (123), included in a remote unit (12-i), being fed to a second  
controller means (121) for recording the predetermined number of virtual  
identities for signalling.

25 **4. - Method for multiple access** according to claim 3, **characterised** in that a virtual identity is selected by said second controller  
means (121) when said remote unit (12-i) wishes to transmit a signalling  
message via a second radio transmitter (122), for which purpose it inserts the  
signalling message into the virtual identity selected and it is received in a first  
radio receiver (113), included in said fixed unit (11-j).

30 **5. - Method for multiple access** according to claim 4, **characterised** in that said signalling multiframe received in said first radio  
receiver (113) is supplied to said first controller means (111) in order that said  
selected virtual identity be marked as occupied and thereafter is broadcast by  
means of said pilot channel.

35 **6. - Method for multiple access** according to ~~any one of claims 1~~  
~~to 4~~, **characterised** in that said signalling multiframe is formed by a

maximum number of virtual identities for signalling that is a function of the maximum duration permissible for said signalling multiframe.

**7. - Method for multiple access** according to claim 6, characterised in that the number of virtual identities for signalling generated by said first controller means (111) is a function of the level of occupancy of said signalling multiframe.

**8. - System for multiple access in a radiocommunication system** which comprises at least one fixed unit (11-j) having an associated coverage area within which is located a set of remote units (12-1 to 12-m), such that they employ time division multiple access (TDMA) techniques to establish communications, so that they interchange signalling messages by means of a signalling multiframe that is used in both transmission directions; characterised in that said fixed unit (11-j) comprises a first controller means (111) for generating a predetermined number of virtual identities for signalling, these being grouped in said signalling multiframe, so that the number of said virtual identities is less than the number of said remote units (12-1 to 12-m).

**9. - System for multiple access** according to claim 8, characterised in that said fixed unit (11-j) comprises a first radio transmitter (112) for broadcasting said virtual identities over a pilot channel in the downlink direction of the transmission, such that said virtual identities are independent of the true identities of said remote units (12-1 to 12-m).

**10. - System for multiple access** according to claim 9, characterised in that said remote unit (12-i) comprises a second radio receiver (123) for receiving said pilot channel, that is supplied to a second controller means (121) for recording the predetermined number of virtual identities for signalling.

**11. - System for multiple access** according to claim 10, characterised in that said second controller means (121) is adapted for selecting a virtual identity when said remote unit (12-i) wishes to transmit a signalling message so as to insert the signalling message inside the virtual identity selected, so as to be transmitted by a second radio transmitter (122) so that a first radio receiver (113), included in said fixed unit (11-j), receives said signalling message.

**12. - System for multiple access** according to claim 11,

**characterised** in that said first radio receiver (113) is adapted for supplying said first controller means (111) with said signalling multiframe, in order that said selected virtual identity is marked as occupied and thereafter is broadcast over said pilot channel.

5           **13. - System for multiple access** according to ~~any one of claims 8~~

*a* ~~to 12,~~ **characterised** in that said first controller means (111) is adapted for generating a number of virtual identities for signalling as a function of the level of occupancy of said signalling multiframe, so that there is a maximum number of virtual identities for signalling which is a function of the maximum  
10 duration permissible for said signalling multiframe.

*add B.2*